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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/604,112	06/26/2000	Leland Szewerenko	TI-29316	3787

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EXAMINER

GUBIOTTI, MATTHEW P

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 07/30/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/604,112

Applicant(s)

SZEWERENKO ET AL. *PRG*

Examiner

Matthew Gubiotti

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

1. This action is in response to the amendment filed on June 6<sup>th</sup>, 2003.
2. Pursuant to the Applicant's submission of a duplicate of the original declaration (filed June 6<sup>th</sup>, 2003), the Examiner's previous rejection to the oath is withdrawn.
3. Pursuant to the revised drawings (filed June 6<sup>th</sup>, 2003), the Examiner's previous rejection to the drawings is withdrawn.
4. Pursuant to the revised claim language (filed June 6<sup>th</sup>, 2003), the Examiner's rejection to Claims 2 and 9 under 35 U.S.C. 112 is withdrawn.
5. Claims 1-13 are pending in the application.

***Response to Arguments***

6. Applicant's arguments regarding the inapplicability of the Cohen reference (U.S. Pat. No. 6,487,713. Filed September 24<sup>th</sup>, 1999), have been fully considered and are persuasive. The Examiner has reviewed the cited provisional application (60/147,242) and determined the subject matter to be directly related to the present utility application.  
The previous rejection of Claims 1-13 has been withdrawn.
7. The Applicant's argument with respect to claims 1-13 are moot in view of new ground(s) of rejection.

Art Unit: 2124

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 103 that form the basis for the rejections under this section made in this Office action:

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 1-9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence et al. (U.S. Pat. No. 5,519,866) (hereafter Lawrence) further in view of McLain, Jr. (U.S. Pat. No. 5,956,513) (hereafter McLain).

**Claims 1-5**

Lawrence teaches a visual linking apparatus and associated method of allocating code and data sections substantially as claimed (See Abstract), comprising the steps of:

Generating a specific allocation instruction from a drag-and-drop or point-and-click user gesture made to a graphical

Art Unit: 2124

user interface from a client program or program component (col.3, li.45-58; col.9, li.47-57) (discussing generating a file based upon the configuration of software components in an interface);

Executing said instruction by altering allocation information associated with one or more code or data section ("changing the program by means of an editor"; col.9, li.47-50) (See fig.14);

Displaying said current allocation state graphically to the user (fig.14; col.21, li.5-19) and displaying all components associated with a project (fig.11, col.18, li.63-67).

Lawrence teaches resolving allocation to the full extent possible given the current allocation information ("build operation using fix up processing [to resolve memory references"; col.28, li.51-65) (See also fig.18); but does not further illustrate the claimed limitations of identifying and presenting allocation errors and sections of code not yet allocated.

In the analogous art of software development, McLain teaches an apparatus and associated method for linking software components (See Abstract) comprising:

Art Unit: 2124

Reporting to client programs the current allocation state inclusive of allocation errors and sections not yet assigned (fig.2, ref. 212 & 214; col.12, li.56-60); and

Repeating these steps until all sections of code and data have been allocated ("user may opt to...resolve the conflicts"; col.13, li.13-21).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of McLain into the apparatus and method of Lawrence. The modification would have been obvious because one of ordinary skill would have been motivated to use well-known iterative compilation techniques to identify and present errors and unassigned code in developing an application from software components. Such a testing methodology would have been employed to minimize execution errors and simplify the development timeframe of complex applications, as taught by Lawrence (col.3, 42-44).

Claim 6

Lawrence further teaches writing the results to an output file (col.5, li.8-14; col.22, li.18-19).

Claims 7 and 8

Lawrence further teaches including the step of recording said instructions in a graphical user interface for replay in a linking strategy file ("any changes made to the project...are automatically saved."; col.19, li.59-65; fig.12).

Claim 9

Lawrence further teaches wherein the set of code and data sections involved in the link may be determined by analyzing a cross-reference graph ("component hierarchy"; col.21, li.5-19; fig.14).

Claim 12 and 13

Lawrence teaches performing a "DeleteComponent" operation from a cross-reference graph ("component hierarchy"; col.21, li.5-19; fig.14) in an object-oriented linking environment (fig.5A, ref.530; col.10, li.40-44) (See also col.22, li.62 to col.23, li.2). The deletion of a root component in an visual component hierarchy is analogous to applying allocation operations to a related group of sections simultaneously, as determined by a starting section on a cross-reference graph.

Art Unit: 2124

11. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence as applied to claim 2 above, and further in view of Draves (U.S. Pat. No. 5,950,221)

Claims 10 and 11

Lawrence teaches a visual linker and associated method for improving the development of software applications by allowing the dynamic configuration and linking of components through a visual interface (col.3, li.45-58; col.9, li.47-57). Lawrence does not expressly teach specifying an overflow policy or specifying a minimum and maximum stack size in order to minimum the errors associated with memory misallocations and stack errors.

In the analogous art of computer instruction execution, Draves teaches a stack overflow handler (col.3, li.35-59) that comprises a variable stack size (col.5, li.41-46). Draves teaches this as means of more efficient execution of computer instruction (col.3, li.25-34).

It would have been obvious to one of ordinary skill at the time of the invention to incorporate the overflow handler technique of Draves into the method disclosed by Lawrence. The modification would have been obvious because one of ordinary skill in the art would have been motivated to reduce the frequency of stack overflow and other memory allocation errors



Art Unit: 2124

during the visual linking of software components in order to improve the overall efficiency of software development, as taught by both Lawrence (col.3, li.42-44) and Draves (col.3, li.25-34).


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Gubiotti whose telephone number is (703) 305-8285. The examiner can normally be reached on M-F, 8-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

MPG  
July 28, 2003

  
**KAKALI CHAKI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**